

ABSTRACT

SYSTEM, METHOD, AND APPARATUS FOR BURNISHING SMALL ASPERITIES AND CLEANING LOOSE PARTICLES FROM MAGNETIC RECORDING MEDIA

[0050] An air bearing burnish slider burnishes very small asperities and cleans the loose particles that adhere to the magnetic recording media. The slider applies a controllable contact force to effectively burnish disk asperities or partially attached particles. In addition, the slider cleans the loose particles effectively while flying in a stable fashion. In a low pitch design, diagonal rails push particles away from the disk surface and trailing edge pads contact the disk at lower linear velocities. Rail pads retain loose contamination and debris in their pockets and burnish asperities. Another design provides a milder burnish force and flies in a high pitch configuration. The trailing edge pads provide stable contacts and the rails help in sweeping away debris. In both designs, the contact forces can be controlled by adjusting linear velocities. A step taper at the leading edge provides a pitch-producing lift force.